DELWIENSIA, A NEW GENUS OF ASTERACEAE

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The genus *Delwiensia* is proposed to accommodate *Artemisia pattersonii* A. Gray on cytological and morphological grounds.

Delwiensia W. A. Weber & R. C. Wittmann, *gen. nov.*, Asteraceae. Type, *Artemisia pattersonii* A. Gray, Syn. Fl. N. Amer. ed. 2, 1(2):453.1886. The genus name honors Delbert Wiens, contemporary American plant taxonomist, specialist in the Viscaceae, plant reproduction concerning embryonic abortion, and pollination by small mammals.

Herba aspectu speciei Artemisiae in subgenere Absinthio, numero chromosomatico n = 7, habitu inflorescentiae determinato.

Herb with the appearance of a species of *Artemisia* in the subgenus *Absinthium*, with the chromosome number n = 7, and with the inflorescence determinate.

Delwiensia pattersonii (A. Gray) W. A. Weber & R. C. Wittmann, *comb. nov.* Basionym: *Artemisia pattersonii* A. Gray.

Delwiensia is a monotypic genus endemic to the alpine tundra of Colorado, Wyoming, and New Mexico. It is superficially similar to *Artemisia scopulorum* but is amply distinct morphologically, its most obvious characters being the smaller number of heads in determinate rather than indeterminate arrays. Wiens and Richter (1966) point out that the root systems of the two species differ, *A. pattersonii* reproducing vegetatively from branched rhizomes and *A. scopulorum* having an unbranched caudex. Furthermore, *A. pattersonii* is unique in *Artemisia* in having a chromosome number of n = 7. The known base

numbers in *Artemisia* are x = 8 and predominantly x = 9. The details of the karyotype did not support the notion that the two species are related. In *Sphaeromeria* (see discussion below) the chromosome number is x = 9. It is of course possible that *Delwiensia pattersonii* might be found in the Asiatic flora and thus would be considered a Tertiary relic (Weber 2002), but cytological and morphological information need to be obtained for the numerous Asiatic species of *Artemisia*-like genera and species. Rydberg (1929) had the following pungent remarks about the inflorescences (from *Scylla or Charybdis*).

> This lumping, advocated by Hall and Clements, has also been practiced by them. They include *Sphaeromeria* Nutt., *Vesicarpa* and *Chamartemisia* in *Tanacetum*. The only characters that Hall and Clements have left to separate *Tanacetum* and *Artemisia* are "Inflorescence cymose, the cyme occasionally reduced to a single head" in *Tanacetum* and "Inflorescence racemose-paniculate" in *Artemisia*. The inflorescence, strictly speaking, is neither cymose nor racemose-paniculate in either, for both have the flowers in heads. In my own treatise of the group I have used the word corymbiform instead of cymose, which I think is much better. Whether the heads are arranged cymosely or racemosely is hard to tell. If cymosely, the terminal and central head should be best and first developed. In such a case *Artemisia pattersonii* should be included in *Tanacetum*. The heads of that species have exactly the same arrangement as in *Chamartemisia compacta* or *Sphaeromeria simplex*, that is, usually one or two heads, the terminal one the larger. If the heads are congregated into a spherical cluster as in *Artemisia glomerata* and *A. globularia* and *Sphaeromeria capitata* (according to Hall and Clements a *Tanacetum*), it would be hard for anyone to tell whether the heads are arranged cymosely or racemosely. In *Vesicarpa potentilloides* (also a *Tanacetum*) [*Sphaeromeria potentilloides* (A. Gray) Heller] I cannot tell if the inflorescence is racemose

or cymose and I have dabbled in taxonomy for 50 years.

Shultz (2006) distinguishes *A. scopulorum* (heads in spiciform arrays, and corolla lobes hairy) from *A. pattersonii* (heads being borne singly or 2–5, spreading to nodding, pedunculate, in paniculiform or racemiform arrays, and corollas mostly glabrous). The inflorescence can be better described as being determinate versus indeterminate. Rydberg's explanation is to this point.

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